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EXAMINER

LAI, DANIEL

ART UNIT	PAPER NUMBER
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2617

NOTIFICATION DATE	DELIVERY MODE
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ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No. 10/567,225	Applicant(s) HELBIG, TOBIAS	
	Examiner DANIEL LAI	Art Unit 2617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 February 2011.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3-7 and 9-11 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3,6,7,9 and 11 is/are rejected.
- 7) ☒ Claim(s) 4,5 and 10 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

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DETAILED ACTION

Response to Amendment

Response to Arguments

Applicant's arguments filed 23 February 2011 have been fully considered but they are not persuasive. In response to the argument that Kim's "available" channels are not "free" channels, but rather are channels available for allocation, and therefore Kim does not disclose determining whether there is a first free channel and a second free channel, Examiner respectfully disagrees.

Kim discloses a channel assignment scheme to effectively maximize channel utilization by using available channels that are not used by access points in the set (paragraph 59, "For each available channel n from 1 to N with $n \neq k$ and each co-channel AP (say j) in $C_i(1)$ (i.e., those APs in the set that have been assigned with channel k)) (emphasis added). An available channel n not assigned to AP is a free channel. Therefore, Kim's "available" channels are "free" channels.

Furthermore, as stated in the Office Action mailed 13 April 2010 (page 2), Applicant is suggested to avoid claim language such as "adapted to" in order to positively recite claim limitations rather than claiming what an apparatus is adapted to do (MPEP 2606).

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

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Claims 1, 3, 6, 7 and 9 are rejected under 35 U.S.C. 102(b) as being anticipated by Kim et al. (US 2003/0087645 A1, hereinafter Kim).

Regarding claim 1, Kim discloses a wireless network system (Abstract, wireless network), comprising:

a first access point for providing a first communication channel to a first terminal (paragraph 21, Fig. 1, first access point providing communication channel with wireless stations);

a second access point for providing a second communication channel to a second terminal (paragraph 21, Fig. 1, second access point providing communication channel with wireless stations);

wherein the first access point is adapted to build up a third communication channel to the second access point to coordinate a setting of the first and second communication channels (paragraph 21, wired network coupling the first access point and the second access point; paragraph 24, AP server as master for coordination; paragraph 59, channel assignment for each AP);

wherein the first access point is adapted to perform a detection for the second access point (paragraphs 40-41, channel assignment process takes into account of radio-path signal loss between every pair of APs, and therefore the first AP performing channel assignment is adapted to detect the second AP);

wherein the first access point is adapted to establish the third communication channel to the second access point when the second access point is detected via at least one of a core

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network and a wireless channel (paragraphs 21, 24 and 40, AP performs channel assignment for other access points);

wherein the first access point is adapted to determine whether there is a first free channel and a second free channel (paragraph 59, during channel assignment process, AP assesses each available channel); and

wherein, in case there are first and second free channels, the first access point is adapted to control a setting of the first and second communication channels on the basis of the first and second free channels (paragraph 59, AP modify channel assignment).

Regarding claim 3, Kim further discloses the first and second communication channels are wireless channels (paragraph 21, Fig. 1).

Regarding claim 6, Kim further discloses the first and second communication channels correspond to first and second frequencies in the ISM band (paragraphs 5 and 21, IEEE 802.11 frequency operates in ISM band at 2.4 GHz).

Regarding claim 7, Kim discloses an access point device for a wireless network system (Abstract, paragraph 21, an access point operates in a wireless network), wherein the access point device is adapted to: provide a first communication channel to a terminal (paragraph 21); and build up a second communication channel to another access point to coordinate a setting of the first communication channel (paragraph 21, wired network coupling the first access point and the second access point; paragraph 24, AP server as master for coordination; paragraph 59, channel assignment for each AP);

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wherein the access point is further adapted to: perform a detection for the other access point; and establish a second communication channel to the other access point when the other access point is detected via at least one of a core network and a wireless channel (paragraphs 21, 24 and 40, AP performs channel assignment for other access points; paragraphs 40-41, channel assignment process takes into account of radio-path signal loss between every pair of APs, and therefore the first AP performing channel assignment is adapted to detect the second AP);

wherein the first access point is further adapted to determine whether there is a first free channel (paragraph 59, during channel assignment process, AP assesses each available channel); and

wherein, in case there is the first free channel, the first access point is further adapted to control a setting of the first communication channel on the basis of the first free channel (paragraph 59, AP modify channel assignment).

Regarding claim 9, Kim further discloses the first communication channel is a wireless channel (paragraph 21, Fig. 1).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Jaszewski et al. (US 5,933,420, hereinafter Jaszewski) in view of Kim.

Jaszewski discloses a method of operating an access point of a wireless network (Abstract), the method comprising the steps of:

providing a first communication channel to a terminal (col. 3, lines 33-45);

building up a second communication channel to another access point to coordinate a setting of the communication channel (col. 4, lines 41-63, where Jaszewski discusses access points communicate with each other, col. 5, lines 5-25, where Jaszewski discusses channel coordination);

performing a detection for the other access point (col. 4, lines 41-65);

establishing a second communication channel to the other access point when the other access point is detected via at least one of a core network and a wireless channel (col. 4, lines 58-65, where Jaszewski discusses a communication path is established when a second access point is detected);

determining whether there is a first channel (col. 3, line 59- col. 4, line 25, where Jaszewski discusses determining whether access points are using same channel);

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controlling a setting of the first communication channel on the basis of the first free channel in case there is a first channel (col. 4, lines 11-40, where Jaszewski discusses generating a new set of channel assignments to reduce near conflict);

determining a first interference and channel usage map in case there is no first channel and requesting a second interference and channel usage map from the other access point in case there is no first channel (col. 5, lines 13-25, where Jaszewski discusses collecting signal strengths information, col. 6, lines 46-63);

determining an optimized channel lay-out on the basis of the first and second interference and channel usage maps and controlling the setting of the first communication channel on the basis of the optimized lay-out (col. 6, line 48-col. 7, line 35).

Jaszewski discloses determining for channels with least interference, but does not explicitly disclose determining for a free channel. However, determining for free channel has been known in the art. For example, in an analogous art, Kim discloses an access point searching for an available channel that has not been assigned to other access point (paragraph 59). One with ordinary skills in the art would recognize that it would be beneficial to use free channel that is not assigned to avoid access points from using the same frequency channel and thereby causes interference. It would have been obvious to one having ordinary skill in the art at the time of the invention to modify the channel assignment scheme as disclosed by Jaszewski with the search for free channel as disclosed by Kim to assign free channel to access point in order to avoid interference between the access points and thereby improve signal quality.

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Allowable Subject Matter

Claims 4, 5 and 10 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DANIEL LAI whose telephone number is (571)270-1208. The examiner can normally be reached on Monday-Thursday 9:00 AM-5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lester Kincaid can be reached on (571)272-7922. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/D. L./

Examiner, Art Unit 2617

/LESTER KINCAID/

Supervisory Patent Examiner, Art Unit 2617